DOCUMENT RESUME

ED 236 852 EC 160 871

AUTHOR Quinones, Wm. A.; Haughton, Donna Denney
TITLE Prevocational Education: Research Implications for Teacher Training.
PUB DATE Apr 76
NOTE 31p.; Paper presented at the Annual International Conference of the Council for Exceptional Children (54th, Chicago, IL, April 4-9, 1976).
PUB TYPE Speeches/Conference Papers (150) -- Guides - Non-Classroom Use (055) -- Information Analyses (070)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Adjustment (to Environment); Failure; Literature Reviews; *Mental Retardation; *Prevocational Education; *Success; *Teacher Education; Vocational Adjustment

ABSTRACT

Factors determining vocational success and failure for mentally retarded persons are reviewed and implications for teacher education addressed. The history of vocational programs for this population is traced, and problems noted in research regarding vocational fitness (including lack of standardized projective vocational tools). Among factors cited as related to success are personality traits, environment, psychomotor efficiency, and personal and social adjustment. Characteristics of vocational failure are said to include social immaturity and community adjustment problems. Research on vocational predictors, largely inconclusive, is reviewed. Implications for teacher education are explained to include curriculum emphases on social and personal adequacy and client and employer counseling. The paper concludes with a brief summary of Project PREM (Preparing Regular Educators for Mainstreaming) which developed a competency based teacher education module on career education. (CL)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

ED236852

54th Annual International Convention
Chicago, Illinois
April 4-9, 1976
(Council for Exceptional Children)

Prevocational Education: Research Implications for Teacher Training

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Wm. A. Quinones
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Wm. A. Quinones
Texas Woman's University

Donna Denney Haughton
The University of Texas at Austin

EC160871

Table of Contents

Chapter		page
I.	Introduction	
	Philosophy and History of Vocational Programs for the Mentally Retarded. . .	1
	Limitations of the Study.	4
	Problems Found in Research.	4
II.	Factors Related to Success.	5
III.	Factors Determining Failure	13
IV.	Examination of Vocational Predictors. . .	17
V.	Programs: Implications for Training Teachers.	20
References.		25
Appendix.		28

Chapter I

Introduction

The purpose of this study was to review some of the research regarding factors which determine vocational success of the mentally retarded, to examine these factors and consider their use as predictors of vocational success, to discover those areas which are in need of more research, and the implications of these findings for teacher education. According to Song and Song(1969) the ultimate criterion of vocational adjustment is job efficiency. However, job efficiency cannot be measured by one factor. The methods of attainment of this job efficiency level are very complex for the mentally retarded.

History of Vocational Programs for the Mentally Retarded

A history of mishap vocational programs for the mentally retarded preceded the development of programs designed to remove many retardates from overcrowded institutions. Wolfensberger (1967) gives a brief history of vocational workshops. The first vocational workshop in the United States was the Perkins School for the Blind, 1840. In 1919, 79 years later, the first workshop shop for the mentally retarded was opened in New York. This agency was to help the mentally retarded to find jobs. By 1953 the first complete rehabilitation center and workshop for the mentally retarded was established by the Association for Retarded Children in New York. The year 1954 was marked by the

Vocational Rehabilitation Administration funding 35 special demonstration projects. Twenty-five more were added in 1964. The year 1967 saw an increase to more than 200 sheltered workshops throughout the United States from a total number of 75 in 1961.

Another study has pointed out that until 1957 there were no organized programs of any major extent for the vocational guidance and placement of the mentally retarded (Woods School Conference, 1957). Also, the public schools had no programs for this purpose. Tizard, Litt, and O'Connor (I, 1950) have indicated that the only recourse for those whose home environments and parental aid were not adequate was institutionalalization. Krishof (1955) showed that this was tragic since most higher level mental retardates have enough ability to even find jobs on their own.

There have always been positions available for the retarded, especially during wartime when the shortage of man power made employment opportunities for the mentally retarded equal to that of the normal worker (Woods, 1957). Winthrop (1956) showed that at this time it was discovered that the retarded could gain a proficiency and skill equal to that of an experienced peace time worker. One author pointed out that for a large number of high level jobs skill and training are more important than high intelligence (Wolfensberger, 1967). Another study showed that in the war even "defectives" or dullards" with a mental age of 6-0 or 7-0 could be trained to be useful (Tizard, et. al., 1950,

p. 566).

Today, society is more complex. This increase in complexity will result in a great increase in the number of people who will be labeled retarded (Wolfensberger). Thus, there is presently a great need for adequate training programs. The "opportunity classes" have ceased to be functional. This and other programs of the public school have not provided work training situations for the retarded. Wolfensberger (p. 253) has stated this and has gone on to say that a workshop setting is needed for the retarded individual who cannot get a job on his own. This sheltered working environment is to help the lower level retardate postphone institutionalization and to become as self-supporting as possible. Wolfensberger went on to point out that the functional money-earning retardate has self respect and is not a financial burden to society.

Problems Found in Research

Among problems in research were the scarcity of reference texts on vocational fitness of the mentally retarded, the lack of a standardized projective vocational tool, and the poor standardization on most studies. Many of the studies contained in the literature used for this research had samples of 20 to 50 participants. The standardization and validation by the use of such small samples has limited the number of definite conclusions which could be drawn from these studies.

Chapter II

Factors Related to Success

Research has pointed out many factors that are related to the vocational success of the mentally retarded. In Bae(1968) was quoted

> Patterson (1964) in commenting on the variables which are critical for the vocational success of the retarded stated that is essential to consider a wide variety of variables--ability, personality, and demographic factors (pp. 871-872).

Although the quotation above mentioned one important aspect, the personality and environmental factors, there are other general factors which are essential for vocational success. These broad factors are personal social adjustment, proper training programs, and adjustment to the work environment.

Kolstoe (1961) examined factors regarding the personality of the retarded worker. The factors he examined were classified into two areas:

Status
1. Home influence
2. Age
3. Sibling rank
4. Intelligence quotient
5. Years of school achievement
6. Physical appearance and condition
7. Urban versus rural

Dynamic
1. Personality
2. Work habits (pp. 472-474).

Those factors he found to favorably affect success were physical appearance and condition, personality, and social and work adjustments.

Studies (Kolstoe) have shown that personality factors are useful in predicting vocational success but the definite relationship of these to other factors have not been reported. In a study by Michal-Smith (1950) research was cited which showed

> ...that personality traits are very largely responsible for the success or failure of the mental deficient in industry; that a retardate with good personal characteristics often proves more efficient than another retardate with an identical I.Q. but less favorable traits (p. 139).

Song and Song(1969) were in agreement with Kolstoe in that school achievement was not a significant variable in vocational success. However, the part that early environment, which includes home and school life, plays cannot be excluded when the total development of an individual is discussed. An individual's emotional stability is greatly determined by the conditions of this early development. The retardate who has been found to be emotionally unstable was discovered to be the most difficult to remain employed(Tizard, et. al.). Wolfensberger has mentioned some of the factors found in research which are related to emotional stability: well-developed social habits, interest in work, a respect for authority, and realistic goals. He has also pointed out that the retardate needs education in the areas of hygiene, sex, and socially acceptable acts. An interest in work should be

shaped for the retardate; an interest in work must be taught to the retardate. A retardate who shows respect for authority figures is usually a well-rounded individual who has made an effort to arrive at this kind of behavior (Stephens, Peck, and Veldman, 1968). Finally, studies have shown that a retardate who does not realize his potential will probably not be successful in employment (Tizard, Litt, and O'Connor, II, 1950).

Various factors were investigated which were physical in nature and not necessarily the result of environmental problems. These factors were manual dexterity, psychomotor efficiency, and physical conditions and appearance. Phillips and Holden (1967) made a study of manual dexterity among all types of handicaps and found that the retarded have significantly lower skills than other handicap types. This implied that retardate with poor manual skills would be difficult to place in an industrialized economy. Another study (Tizard, et. al., I) showed that psychomotor efficiency was a complex factor, but it is needed for trade success. In this study psychomotor efficiency was used to define more advanced motor skills involving "...speed of decision, greater volitional perseveration, and greater mechanical ability" (p. 570). Another physical aspect investigated was physical appearance itself. Several studies have contradicted each other concerning the importance of physical appearance. Dimichael (1964) has pointed out the obvious: selective placement is necessary where physical conditions are a determining factor.

Some of the social adjustment factors which have been found to be essential to successful employment have been listed below in the evaluation checklist of what the employer expects of a client. Another aspect of social adjustment, mentioned earlier, examined was respect for the authority figure. Lehman and Hall(1951) found that respect for authority was an important aspect of vocational, but that equally important was the retardate's ability to work well with fellow employees. Another study revealed that the retardate must also be able to adjust to the community (Cohen, 1960). This was found to be a potential difficulty if the client had been institutionalized for most of his life.

Investigation has shown that if personal and social adjustment was not extablished as a part of the retardate's personality during his early environment, then training programs must provide training in this area. Kolstoe showed that this would involve training in personal independence, responsibility, and social acceptability, all of which are necessary for success. One study reviewed(Cowan and Goldman, 1959) indicated that retardates who received proper training made better vocational adjustments than those who did not. Hitchcock (1954) suggested that competent public school programs play a great part in developing acceptable personality and social traits. Kolstoe indicated that it is the public school which needs to introduce basic sight words and a basic vocational

vocabulary because the inability to read is still limiting in vocational success and advancement. Wolfensberger also agreed that word recognition, such as the Dolch basic sight words and specific vocational vocabularies, could be of significance for success on certain jobs.

Hitchcock outlined a vocational program to be utilized after public schooling had been completed. This program included counseling, vocational planning, training, placement, and job adjustment, all of which are important success factors. Counseling and placement are very important at this stage. The counselor must understand his client, be able to establish a positive relationship with him, and must locate a position for him which will suit his needs (Cowan and Goldman).

Success factors involving work adjustment were examined by Warren (1961) in an examination of characteristics required by employers. Among a group of employed retardates he found that the following characteristics were predominant: "... self-confidence, cheerfulness, cooperation with supervisor, cooperation with other employees, respect for supervisor, minding own business, mixing socially with other employees, completing work on time, quality of work, understanding work, and initiative" (p. 630). Kolstoe pointed out that in Warren's study no one who had received a "doubtful" or "no" rating secured employment (p. 478; 480). Listed below is Warren's rating scale for employers:

1. Self-confidence

2. Cheerfulness
3. Cooperates with supervisor
4. Cooperates with employer
5. Respects supervisor
6. Minds own business
7. Accepts criticism
8. Mixes socially
9. Neat and clean
10. On time
11. Safety conscious
12. Careful with property
13. Completes work on time
14. Quality of work
15. Understands work
16. Shows initiative
17. Total personality and social adjustment
18. Total work efficiency
19. Would be willing to hire as an employee(pp. 630-631).

A study by Linde, as cited in Wolfensberger, showed similar factors present in a group of employed retardates: "...attendance, perseverance, productivity, quality of work, grooming, generalization of work habits, trainee's relationship to supervisor and co-worker..." (p. 247). Michal-Smith (1950) listed success factors necessary for those whose employment would involve meeting people or conducting business with others: "...emotionally even-tempered, having a feeling of loyalty to the company, being personally attractive, and not being forgetful..." (p. 142).

Peterson and Jones (Kidd, 1967) developed a five point scale evaluation form. These factors should also be given consideration as to their relationship to the vocational success of the retardate:

cooperation
effort
cautious-safety conscious

accuracy and consistency in following directions
dependability: promptness, independence, awareness of time
emotional control: concentration, perseverance, steady rate and adaptability to new tasks
self-correction
accepting constructive criticism
relationship with others: sociability, teamwork, challenged by competition
physical stamina
verbalization--self-expression
personal appearance and grooming
memory
manual dexterity
choosing and decision making
speech (described)
motor limitations
realistic goals
list of basic academics (pp. 281-283).

Michal-Smith indicated an important work factor for certain jobs. This was the ability of the worker to be cautious and to keep away from danger situations. He also pointed out that physical endurance and persistence were not to be dismissed when considering success factors. If a worker were unhealthy or unable to withstand manual and repetitive types of jobs, then success would be unlikely. Tizard, Litt, and O'Connor (II, 1950) defined persistence as a "...willingness to withstand discomfort" (pp. 144-145). In repetitive work the body must be in the same position for long periods of time and can be somewhat uncomfortable. The client must have the physical ability and temperament to deal with this.

An investigation of lower functioning individuals in the employment of the military showed evidence that anyone could be trained in any practical job "...provided that he has

sufficient 'g' persistence and interest, and is not suffering from nervous or muscular disease" (Tizard, et. al., I, p. 571).

The factors involved in successful adaptation to work were found to be numerous. Research proving their validity is not as plentiful. However, each factor listed was shown to play a part in vocational adjustment. The factors were found to be variable in their importance from client to client and from job to job. Wolfensberger gave a brief set of criteria for predicting which retardates are capable of productive work:

1. The retardate who can perform basic self-care skills is capable of sheltered work.
2. Those who gain from arts and crafts activities and can play purposefully.
3. Inability to walk, lack of speech or language, and even incontinence are not necessarily indicators that a retardate is incapable of sheltered work (p. 233).

Chapter III

Factors Determining Failure

Many of the factors related to the failure of the mentally retarded in a vocational setting were found to be negative performances of the success factors. However, research showed several other specific factors which are characteristic of the retardate's vocational failure.

Failure factors directly related to the individual's physical make-up were found to be secondary disabilities that affect appearance and physical disabilities which limit physical endurance. Kolstoe pointed out that secondary disabilities, such as visual and hearing disorders, determine failure in cases where it makes the client appear handicapped. Wolfensberger agreed on this point and stated that appearance could count more than ability in procuring a job. Parnicky (1971) has indicated that physical disability is an obvious failure factor for the mentally retarded in that they have been excluded from most studies on success variables. Mental fatigue while on the job was mentioned as a failure factor (Tizard, et. al., II) as well as lack of physical skill or strength to complete a task or a day's work(Cohen).

Some basic failure factors were found to be associated with the retardate's poor personal-social adjustment to the community. Stephens, Peck, and Veldman have shown that

retardates with severe emotional problems could not succeed either at work or in their relationships with the community. They cited these problems as being social immaturity, a lack of divergent thinking ability, and a lack of family stability. Phillips and Holden supported this as a failure factor in their statement of two general job and community adjustment problems:

1. The complications of mental retardation with severe physical handicaps.
2. The complication of mental retardation with definite emotional or personality disorder (p. 452).

Finally, Cohen discovered that one of the factors of greatest impact for the retardate was the label of mental retardation and the prejudice which people have toward it. The image that the community has of the retardate could be a totally defeating factor.

Failure factors discussed in research and related to programs for the mentally retarded were poor training programs, poor placement, untrained personnel, labeling the client, and inability of the client to think independently. Wolfensberger mentioned that undesirable training programs are those which offer training in too specific of an area, are out of contact with commercial firms, do not use incentives, and show little relationship with actual work. He went on to say that placement would not be successful if

> ...the client is not emotionally ready for the position, there is inadequate briefing and training for the placement, there is no contact and preparation of the employer, and there is no attention to details such as transportation (p. 260).

Moreover, no program for the mentally retarded can be successful if there is doubt, indifference, and pessimism among the staff.

Cohen has demonstrated that the programming of the institution has kept the retardate from having to think about his next move. Throughout his institutional life everything had been prepared and ready for him. Many times the retardate wrongly expects this from the employer. Also, Blue indicated that the institution as well as the public school have placed labels on the mentally retarded which in themselves predetermine a retardate's vocational success.

Some of the major factors determining failure for the retardate in the area of work adjustment were listed in order of greatest occurrence in a study by Peckham (1961):

1. Lack of acceptance by fellow employees
2. Lack of social and vocational sophistication
3. Salary dissatisfaction
4. Inability to budget properly
5. Lack of initiative and job responsibility
6. Job quitting for capricious reasons without preparation for the future
7. Parental unrealism about client capabilities
8. Client unrealism about personal capacities
9. Illiteracy
10. Family over protection (p. 452).

It was interesting to note that Krishof and Hall mentioned two major factors in job termination: "...employee dissatisfaction and the employer's dissatisfaction with the employee" (pp. 187-188). Among the factorial aspects of vocational failure and success this factor is possibly the most critical:

a basic relationship and understanding between the employer and the retarded employee.

Chapter IV

Examination of Vocational Predictors

One basic reason for identification of vocational success and failure factors for the retarded was to examine their possible use as predictors of vocational success. Factors which have been researched were examined in previous chapters, but research has not clearly identified the degree of importance of each factor. Apparently the struggle to identify and classify these factors was a struggle similar to that of the identification of intelligence and the attempt to isolate predictors of intelligence. However, Wolfensberger pointed out many errors in research regarding vocational fitness. Possibly these errors were the reason for the paucity of specific guidelines in the area of vocational prediction.

Errors found in research which Wolfensberger discussed were poor design and control of research, lack of cross validation, lack of confirmation across studies, emphasis on variables associated with the retardate, and the general weakness of some predictors. He questioned the practice of attempting to validate a technique which has a narrow scope. For example, if a technique has been developed to measure vocational competency in maid service it is only useful as a vocational measurement in this one particular area.

Too often a finding in one area is generalized to all areas. Wolfensberger also pointed out that in many studies important variables such as proper counseling, transportation, and poor working conditions were left out. He mentioned a statement from Kolstoe and Shafter which suggested the importance of relating predictors to the specific job to be predicted: "...success predictors may need to be tied to job descriptions" (pp. 241, 244). In short, the general concensus of the above researchers was that vocational success may be similar to intelligence. Neither is a characteristic which can be predicted, but both can be measured and assumed valid at the time measured. This measurement is temporal and is a measurement of status, not of future capabilities.

Wolfensberger has pointed out that at some time almost every variable of vocational success for the retarded has been investigated, resulting in much controversy. One area in which the literature was found to be abundant was the possible relationship between I.Q. and success. Many studies showed that I.Q. could not be satisfactorily used as a predictor if vocational success (Wolfensberger; Dimichael; Cowan and Goldman; Winthrop; Parnicky, et. al.). As cited in Wolfensberger Kolstoe showed that the importance of academic skills is not clear since many jobs do not include reading. Obvious relationships were seen between I.Q. and functioning ability since a greater degree of divergent and convergent thinking would be needed on a higher level job. However, no significant

study has shown a direct relationship between I.Q. and functioning ability. One researcher presented a basic factor regarding performance prediction in suggesting that dexterity tests would be greater in their significance in measuring the work intelligence of the mentally retarded (Tizard, et. al., II).

Aside from I.Q. Kolstoe (1961) ruled out many factors as significant predictors of vocational success. Among these were ...institutionalization effects, sibling rank, school performance, home structure, personal attractiveness for manual, repetitive, and machine work, rural versus urban background, and age" (pp. 473-476). Daniels and Stewart (1970) judged the retardate's perception of self and parent as not being significant for personal and social adjustment on a sample of 40. Tizard, Litt, and O'Connor (II, 1950) noted that accident proneness was not a problem of employment for a sample of 26 speech handicapped retardates.

> While researchers have not neglected the field of vocational training, the quality of research has been low. What is needed is not more research, but better research. The time for ill-controlled, shot-gut type studies seems passed as such work seems unlikely to add convincing evidence to the already confusing and contradictory body of such studies (Wolfensberger, p. 264).

Chapter V

Programs: Implications for Training Teachers

Although research has demonstrated that there are no valid predictive assessment tools for the work future of the retarded, implications can be drawn for teacher preparation programs based on the factors identified as leading to vocational success.

The literature researched demonstrated that there are two major factors which should be programmed for the mentally retarded: work skills which can be used in a variety of jobs and personal-social adjustment. The basic programs now in existence include the public school, community workshops, institutional workshops, and on-the-job training and placement. Another program approach was suggested in gearing the curriculum of the public school, the workshop, and on-the-job training to concentrate on work skills and personal-social adjustment training. A core curriculum was suggested:

> Occupational Adequacy: skills for gainful independent employment and living
> Social Adequacy: ability to make good social adjustments
> Personal Adequacy: physical and mental health (Woods, p. 92).

Cohen suggested that a close observation of the program should be kept and that persons in charge should be able to recognize reasons for individual failure on vocational placements. Wolfensberger also pointed out that the training program should not be contaminated by situations that would not also

be encountered in industry. He went on to say that training should not be too specific because with the changing world today industrial needs change also. To the contrary, Cowan and Goldman (1959) felt that the retardate should have training toward a definite job. It seems that the question of specific or non-specific training would depend upon the individual retardate and should be carefully considered by the counselor.

Another program area that was found to be essential was counseling. Counseling should perform three basic roles: a) preparing and assisting the client throughout employment, b) counseling with the parent, and c) counseling with the employer. Hitchcock outlined a plan for client and employer counseling:

> Vocational planning
> Psychological examination
> Set of recorded observations
> Realistic goals set with client
> Training
> Specific training
> Re-training
> Placement
> Working with employer
> Getting employer to help staff understand
> Helping employer to understand client limitations
> (pp. 101-104).

The counselor should also be aware of new vocational possibilities. Elo and Hendel (1972) expressed that it is unfair to many retardates to be placed in service and unskilled occupations when they are capable of other jobs.

Patterson, as cited in Wolfensberger, indicated that parent counseling is an important factor in successful employment. He felt that the parent's attitude toward their retarded

child's work could be very significant. Blue pointed out that parents should know about training programs in order to get a perspective of his child's future.

The counselor was also shown to play an important role in the personal-social adjustment of the retarded. First, Cohen indicated that the counselor can help the client develop a feeling of responsibility for the training program. Once this is established the counselor can work to solve the client's problems through employer-counselor conferences, fanily-counselor conferences, and extensive client-counselor conferences (Peckham).

The factors discussed which are related to the training program were shown to be essential for the vocational success of the mentally retarded. The proper training program is the means of "predicting" the vocationally successful retardate. Finally, Wolfensberger has stated that the people who staff these programs must

1. Understand human problems associated with retardation
2. Strongly believe that the retarded can be vocationally successful (p. 259).

Career education encompasses the goals of instilling the desire to work within individuals, of providing them with the necessary skills required to work, and of assisting them in the acquisition of skills to find and hold a job. Educators, including the regular academic teacher, the special class teacher as well as the vocational teacher, have begun to concentrate on the career implications for their subject matter. Career education should be for all people--including the handicapped.

Career education for the handicapped as well as for the non-handicapped must focus on providing the student with a view of a broad range of career opportunities. The handicapped individual may participate in the realm of employment anywhere along the spectrum from institutionalization to competitive employment. Educators involved in career education must be aware of some of the problems that the handicapped employee might face in a competitive employment situation. They should possess the skills to analyze work tasks as well as worker competencies.

Any proposed teacher preparation program components in vocational education must consider those factors which are related to the successful employment of mentally retarded. The goal of such a program for preparing regular classroom teachers to meet the career education needs of the mentally retarded student, as well as other handicapped students who are being mainstreamed into regular classes, should include

an awareness of these factors and the development of skills and techniques for modifying existing career education programs.

Project PREM (Preparing Regular Educators for Mainstreaming) is a BEH funded endeavor to design teacher training materials to prepare both pre-service and in-service teachers to meet the educational needs of those handicapped students who are being mainstreamed. One of the particular areas of concern which was identified by the needs assessment phase of the project delt with the topic of career or vocational training. As a result a competency-based teacher education module was developed entitled Let's Look to Their Future: Career Education. This module is designed to provide elementary and secondary teachers with the understanding and skills to modify the regular classroom career education program to meet the needs of the handicapped child who is placed in the mainstream of education.

The first objective of the module requires that the participant identify 15 prerequisite skills and/or attitudes which are considered necessary for successful entry into the world of work. This awareness hopefully will result in changes in programs to better orient all students to the world of work.

The second objective of the career education module requires the participant to design a lesson plan for utilizing some type of vocationally oriented resource material to teach one of the prerequisite skills identified in the first objective. Here the participant must be able to modify or adapt the material

to meet the needs of handicapped students who are being mainstreamed. Goal and objectives must be stated clearly and written in behavioral terms. Program modifications must be included so that the lesson would be meaningful to all students.

The third objective provides the participant with experience in analyzing tasks required by certain jobs, exploring career opportunities within a job family, and developing skills checklists to enable students to discover roles which best match with their own abilities and skills.

Aside from the need for a basic predictive vocational tool Wolfensberger pointed out other areas which are in need of further research and program development:

> characteristics of retardates who find jobs for themselves contrasted with those who go into vocational training
> staff patterning
> training
> administration
> counselor's attitude and its effect on placement
> placement variables
> high cost of rehabilitation
> multiply handicapped programs
> job analysis
> factorial approach to ability adjustment (pp. 246-248).

It is anticipated that with the implementation of career education teacher education programs such as the one proposed by Project PREM the vocational needs of all students will be better served.

References

Bae, Agnes Y. Factors influencing vocational efficiency of institutionalized retardates in different training programs. American Journal of Mental Deficiency, 1968, 72, 871-874.

Blue, Milton. Trainable mentally retarded in sheltered workshops. Mental Retardation, 1964, 2, 97-104.

Cohen, Julius S. An analysis of vocational failures of mental retardates placed in the community after a period of institutionalization. American Journal of Mental Deficiency, 1960, 65, 371-375.

Cowan, Lawerence and Morton Goldman. The selection of the mentally deficient for vocational training and the effect of this training on vocational success. Journal of Consulting Psychology, 1959, 23, 78-84.

Crosson, James E. A technique for programming sheltered workshop environments for training severely retarded workers. American Journal of Mental Deficiency, 1969, 73, 814-818.

Daniels, Lloyd K. and James A. Stewart. Mentally retarded adults' perception of self and parent related to their vocational adjustment. Training School Bulletin, 1970, 66, 164-171.

Dimichael, Salvatore. Providing full vocational opportunities for retarded adolescents and adults. Journal of Rehabilitation, 1964, 30, 10-12, 30-31.

Elo, Margaret R. and Darwin D. Hendel. Classification as mentally retarded: a determinant of vocational rehabilitation outcomes? American Journal of Mental Deficiency, 1972, 77, 190-198.

Gordon, S., N. O'Connor, and J. Tizard. Some effects of incentives on the performance of embeciles on a repetitive task. American Journal of Mental Deficiency, 1955, 60, 371-377.

Hitchcock, Arthur A. Vocational training and job adjustment of the mentally deficient. American Journal of Mental Deficiency, 1954, 59, 100-106.

Kidd, John W. A job readiness evaluation checklist. Exceptional Children, 1967, 33, 581-583.

Kolstoe, Oliver P. An examination of some characteristics which discriminate between employed and not-employed mentally retarded males. American Journal of Mental Deficiency, 1961, 66, 472-482.

Krishef, Curtis H. and Manford A. Hall. Employment of the mentally retarded in Hennepin County, Minnesota. American Journal of Mental Deficiency, 1955, 60, 182-189.

Lehman, Ann. Dealing with the employer in job finding and placement. American Journal of Mental Deficiency, 1951, 56, 445-447.

Levine, Samuel and Freeman F. Elzey. Factor analysis of the San Francisco Vocational Competency Scale. American Journal of Mental Deficiency, 1968, 73, 509-513.

Michal-Smith, H. A study of the personal characteristics desirable for the vocational success of the mentally deficient. American Journal of Mental Deficiency, 1950, 55, 139-143.

Neal, Jr., W. R. Articulatory deviation and employability of the adolescent educable mentally retarded. Journal of Exceptional Children, 1969, 35, 561-562.

Parnicky, Joseph J., Harris Kahn, and Arthur B. Burdett. Standardization of the (visa) vocational interest and sophistication technique. American Journal of Mental Deficiency, 1971, 75, 442-448.

Peckham, Ralf A. Problems in job adjustment of the mentally retarded. American Journal of Mental Deficiency, 1951, 56, 448-453.

Phillips, Beatrice K. and Raymond H. Holden. Relationship between fine manipulative ability and intelligence in a vocational rehabilitation setting. Vocational Guidance Quarterly, 1967, 15, 213-216.

Song, A. Y. and R. H. Song. Prediction of efficiency of institutionalized retardates in the community. American Journal of Mental Deficiency, 1969, 73, 567-571.

Stephens, Will Beth, J. R. Peck, and Donald J. Veldman. Personality and success profiles characteristic of young adult male retardates. American Journal of Mental Deficiency, 1968, 73, 405-413.

Teasdale, Robert and Denis Joynt. Some effects of incentives on the behavior of adolescent retardates. American Journal of Mental Deficiency, 1967, 71, 925-930.

Tizard, J., B. Litt, and N. O'Connor. The employability of high-grade mental defectives I. American Journal of Mental Deficiency, 1950, 54, 563-576.

Tizard, J., B. Litt, and N. O'Connor. The employability of high-grade mental defectives II. American Journal of Mental Deficiency, 1950, 55, 144-147.

Warren, Fout G. Rating of employed and unemployed mentally handicapped males on personality and work factors. American Journal of Mental Deficiency, 1961, 65, 629-633.

Winthrop, Henry. Psychological and economic factors governing the industrial utilization of the mentally defective learner. American Journal of Mental Deficiency, 1956, 61, 181-190.

Wolfensberger, Wolf. Vocational preparation and occupation. In Alfred A. Baumeister (Ed.), Mental retardation--appraisal, education, and rehabilitation. Chicago: Aldine Publishing, 1967.

Woods School Conference. Conference on education and the exceptional child proceedings (vocational training and rehabilitation of the exceptional child. Northwestern University: School of Law, 1957.

Appendix

Materials Useful in Vocational Orientation Teacher Preparation Programs

Identification of Prerequisite skills

Jobs Survival Skills-SVE, 1973
Outlines the basic employment skills included in an audio-visual presentation

Career Education Awareness-TEA, 973
A slide/cassette presentation which gives an overview of career education in the public schools. It includes an outline of the basic skills included in career education programs.

Jobs & You Game-Xerox, 1973
A short game designed to focus attention on the key factors involved in prevocational education.

Developing a Career Education Oriented Lesson
"Career Education in Practice" by Walter F. Retzlaff, Teaching Exceptional Children, Spring, 1973, pp.134-137.

Career Education Awareness-TEA, 1973
Task Analysis and Relations to Student Skills

Job Experience Kit-SRA, 1970
Contains work experience simulations for twenty occupations

Occupational Exploration Kit-SRA, 1972
Provides a means for students to explore a wide variety of occupations in terms of abilities and education required

Work-SRA, 1973
Multimedia presentation designed to assist students in career exploration and self-awareness

Suggested Readings

a. Found Your Spot in Life?, NARC Publication
b. Give an Opportunity-Gain an Asset, NARC Publication
c. This Isn't Kindness...It's Good Business, NARC Publication
d. America's Needs in Habilitation and Employment of the Mentally Retarded, President's Committee on Mental Retardation